



CHEMISTRY NMDCAT

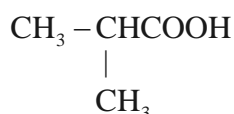
UHS TOPIC WISE TEST (UNIT-11)

TOPICS

✓ **CARBOXYLIC ACIDS**

✓ **MACROMOLECULE**

Q.1 Which of the following name is correct for given compound:



- a. Isobutyric acid
b. α - Methyl Propionic acid
c. 2 - Methyl propanoic acid
d. All of these

Q.2 Identify the correct order of acidic strength

- a. Phenol > Carboxylic acid > Water > Alcohol
b. Carboxylic acid > Phenol > Water > Alcohol
c. Carboxylic acid > Water > Phenol > Alcohol
d. Carboxylic acid > Alcohol > Phenol > Water

Q.3 Which one is aliphatic dicarboxylic acid

- a. Ethanoic acid
b. Benzoic acid
c. Oxalic acid
d. Phthalic acid

Q.4 When ethanoic acid reacts with PCl_5 , the products formed are _____

- a. $\text{CH}_3\text{COCl} + \text{HCl}$
b. $\text{CH}_3\text{CH}_2\text{Cl} + \text{POCl}_3 + \text{HCl}$
c. $\text{CH}_3\text{COCl} + \text{H}_3\text{PO}_4 + \text{HCl}$
d. $\text{CH}_3\text{COCl} + \text{POCl}_3 + \text{HCl}$

Q.5 Reaction of carboxylic acid with alcohol in the presence of H_2SO_4 is _____ reaction

- a. Electrophilic substitution
b. Nucleophilic substitution
c. Electrophilic addition
d. Nucleophilic addition

Q.6 Which of the following is not a fatty acid?

- a. Propanoic acid
b. Stearic acid
c. Succinic acid
d. Palmitic acid

Q.7 Phthalic acid is also called

- a. Benzoic acid
b. 1, 3-Benzenedicarboxylic acid
c. 1, 2-Benzenedicarboxylic acid
d. 1, 4-Benzenedicarboxylic acid

Q.8 When a carboxylic acid is protonated, protonation occurs at

- a. Hydroxyl oxygen atom
b. Hydroxyl hydrogen atom
c. Carbonyl Oxygen atom
d. Carbonyl carbon atom

Q.9 The boiling points of carboxylic acids are _____ than their corresponding alkanes.

- a. Low due to low molecular masses
b. High due to high molecular masses
c. High due to hydrogen bonding
d. Low due to weak intermolecular forces

Q.10 Which one is correct general formula for carboxylic acid

- a. $\text{C}_n\text{H}_{2n}\text{O}$
b. $\text{C}_n\text{H}_{2n}\text{O}_2$
c. $\text{C}_n\text{H}_{2n}\text{O}_n$
d. $\text{C}_n\text{H}_{2n-1}\text{O}_2$

Q.11 Carboxylic acids are dehydrated on heating strongly in the presence of phosphorous pentoxide product will be _____

- a. Acid amide
b. Acid anhydride
c. Alkyl amine
d. Alkane nitrile



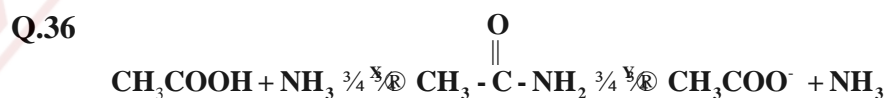
- Q.12** The secondary structure of protein is maintained by H-bonding between
- N and H
 - O and C
 - O and H
 - C and H
- Q.13** Amino acids are the building blocks of
- Carbohydrates
 - Vitamins
 - Proteins
 - Fats
- Q.14** A protein assumes at least
- 25 types of amino acids
 - 2 polypeptide chains
 - 3 structural levels
 - 1 structural level
- Q.15** Denaturation of protein is caused by
- Changing the temperature
 - Changing the pH
 - Intensified light
 - All of these
- Q.16** The molecular weight of protein is
- > 1000 amu.
 - > 10000 amu.
 - < 1000 amu.
 - < 10000 amu.
- Q.17** The helical structure of protein is stabilized by
- Ether bonds
 - Peptide bonds
 - Amide linkage
 - Hydrogen bonds
- Q.18** The three dimensional twisting and folding of the polypeptide chain results in
- Primary structure
 - Secondary structure
 - Tertiary structure
 - Quaternary structure
- Q.19** Amino acid monomers that form chain with peptide linkage by releasing a water molecule occurs in
- Addition polymerization
 - Substitution polymerization
 - Condensation polymerization
 - All of them
- Q.20** A peptide bond in the linear sequence of amino acid (primary structure of protein) is formed with the elimination of
- NH₃
 - H₂O
 - CH₄
 - CO₂
- Q.21** Acetic acid exists as cyclic dimer in benzene due to _____ with _____ atoms in the ring
- Hydrogen bonding, Eight
 - Covalent bond, Three
 - Dipole-Dipole force, Eight
 - Hydrogen bonding, Three
- Q.22** Strongest acid among the following is
- FCH₂COOH
 - BrCH₂COOH
 - ClCH₂COOH
 - ICH₂COOH
- Q.23** The reaction of carboxylic acid with sodium metal to form salt with evolution of H₂ gas. It is an example of
- Electrophilic substitution
 - Nucleophilic substitution
 - Electrophilic addition
 - Nucleophilic addition
- Q.24** Ethanoic acid reacts with all of these to produce water except
- Ethanol
 - Caustic soda
 - Sodium
 - Sodium hydrogen carbonate



- Q.25** One of the following compound reacts with its own oxidation product (an oxidation which involves no loss of carbon) to give sweet odour liquid
- Propanal
 - 1-Propanol
 - Propanone
 - Propanoic acid
- Q.26** In the presence of hot alkaline potassium permanganate solution 2-butene will give
- Formic acid + Acetic acid
 - Two moles of methanoic acid
 - Two moles ethanoic acid
 - Ethylene glycol
- Q.27** Valeric acid is obtained from a herb velarian, its IUPAC name is
- Propionic acid
 - Butyric acid
 - Pentanoic acid
 - Caproic acid
- Q.28** Esters have fruity smell and are used as artificial flavours. amylacetate gives flavour of
- Banana
 - Pineapple
 - Jasmine
 - Orange
- Q.29** The complete oxidation of ethanol produces first ethanal than
- Ethanal
 - Ethanoic acid
 - Propanone
 - Benzoic acid
- Q.30** The strongest acid is
- CH_3COOH
 - Cl_2CHCOOH
 - ClCH_2COOH
 - Cl_3CCOOH
- Q.31** Ethanenitrile can be converted into ethanoic acid through _____ intermediate
- Ethyl alcohol
 - Acetamide
 - Acetyl chloride
 - Methyl cyanide
- Q.32** The weakest oxidizing agent can be used in the reaction
- $$\text{CH}_3\text{CHO} + [\text{O}] \xrightarrow{\frac{3}{4} \text{X}} \text{CH}_3\text{COOH}$$
- Ethanal Ethanoic acid
- $\text{K}_2\text{Cr}_2\text{O}_7 / \text{H}_2\text{SO}_4$
 - $\text{Na}_2\text{Cr}_2\text{O}_7 / \text{H}_2\text{SO}_4$
 - $\text{KMnO}_4 / \text{H}_2\text{SO}_4$
 - $\text{AgNO}_3 / \text{NH}_4\text{OH}$
- Q.33** The IUPAC name of given organic compound $\text{HOOC} - \text{CH}_2 - \text{COOH}$
- Ethane dioic acid
 - Propane dioic acid
 - Malonic acid
 - Both "B" and "C"
- Q.34** 'S' and 'T' react with sodium metal and release H_2 . S and T react with each other to produce ethyl ethanoate. S and T are

a.	CH_3COOH	$\text{C}_2\text{H}_5\text{OH}$
c.	HCOOH	$\text{C}_2\text{H}_5\text{OH}$
b.	CH_3COOH	CH_3OH
d.	$\text{CH}_3\text{CH}_2\text{COOH}$	$\text{C}_2\text{H}_5\text{OH}$

- Q.35** Which compound will react with each of these
- Cold NaOH
 - CH_3OH with conc. H_2SO_4
 - PCl_5
- CH_3COCl
 - $\text{HOCH}_2\text{CO}_2\text{CH}_3$
 - RCO_2H
 - $\text{CH}_3\text{CH}_2\text{CO}_2\text{CH}_3$



The "X" and "Y" are

- X = Heat , Y = $\text{H}_2\text{O} / \text{OH}^-$
- X = Alcohol , Y = $\text{H}_2\text{O} / \text{HCl}$
- X = Heat , Y = H_3O^+
- X = Cold , Y = $\text{KMnO}_4 / \text{OH}^-$



- Q.37** Glacial acetic acid freezes to ice like solid at
 a. 8°C b. 17 K
 c. 25°C d. 17°C
- Q.38** How many grams of calcium metal are used with ethanoic acid to form one mole of H_2 gas?
 a. 80 b. 60
 c. 40 d. 20
- Q.39** In the complete reduction of carboxylic acid in the presence of HI/P the _____ group of carboxylic acid is involved
 a. $-\text{OH}$ b. $-\text{COOH}$
 c. $-\text{H}$ d. $-\text{CH}_3$
- Q.40** Propanoic acid liberates CO_2 from Na_2CO_3 . The carbon of CO_2 comes from
 a. Methyl group b. Carboxyl group
 c. Methylene group d. Carbonate ion
- Q.41** An aqueous solution of an organic compound reacts with sodium carbonate to produce carbon dioxide gas. Which one of the following would be the organic compound?
 a. $\text{CH}_2=\text{CH}-\text{CH}_3$ b. CH_3CHO
 c. $\text{CH}_3\text{COOC}_2\text{H}_5$ d. $\text{CH}_3-\text{CH}_2\text{COOH}$
- Q.42** Which reagent is used to reduce a butanoic acid to 1-butanol
 a. H_2/Ni b. $\text{KMnO}_4/\text{H}_2\text{SO}_4$
 c. $\text{AgNO}_3/\text{NH}_4\text{OH}$ d. LiAlH_4
- Q.43** Which enzyme bring about exchange in functional group between two compounds
 a. Phospho-transferase b. Phospho-glyceromutase
 c. L-asparaginase d. LDH-1
- Q.44** Gelatin is obtained by heating
 a. Bones b. Skin
 c. Tendons d. All of these
- Q.45** Which enzyme helps to diagnose rickets and obstructive jaundice
 a. Thrombin b. L – asparaginase
 c. LDH – 1 d. Alkaline phosphate
- Q.46** Many enzymes contain a protein part and non protein part. This protein part is _____
 a. Apoenzyme b. Holoenzyme
 c. Co-factor d. Co-enzyme
- Q.47** Which of the following enzyme has Fe^{+2} ions as co-factor
 a. Chrome oxidase b. Phosphatase
 c. Carbonic anhydrase d. Glucose -6-phosphatase
- Q.48** Which of the following elements is not present in all proteins
 a. Carbon b. Hydrogen
 c. Sulphur d. Nitrogen
- Q.49** Enzymes that catalyze the transfer of groups within molecule are called
 a. Isomerases b. Lyases
 c. Transferases d. Ligases
- Q.50** Malic acid has formula $\text{HOOCH}(\text{OH})\text{CH}_2\text{COOH}$. Three moles of which will react with one mole of the malic acid
 a. Sodium bicarbonate b. Sodium metal
 c. Potassium hydroxide d. Ethanol in conc. H_2SO_4

CTS # 11

Chemistry

- | | | | | |
|-------|-------|-------|-------|-------|
| 1- D | 11- B | 21- A | 31- B | 41- D |
| 2- B | 12- C | 22- A | 32- D | 42- D |
| 3- C | 13- C | 23- A | 33- B | 43- A |
| 4- D | 14- C | 24- C | 34- A | 44- D |
| 5- B | 15- D | 25- B | 35- C | 45- D |
| 6- C | 16- B | 26- B | 36- A | 46- A |
| 7- C | 17- D | 27- C | 37- D | 47- A |
| 8- C | 18- C | 28- A | 38- C | 48- C |
| 9- C | 19- C | 29- B | 39- B | 49- A |
| 10- B | 20- B | 30- D | 40- D | 50- B |

Physics

- | | | | | | |
|-------|-------|--------------|-------------|-------|------------|
| 1- B | 11- A | 21- C (2-81) | 31- C | 41- B | 51- C |
| 2- A | 12- D | 22- B | 32- D | 42- B | 52- C |
| 3- C | 13- D | 23- A | 33- C | 43- D | 53- B (gm) |
| 4- D | 14- B | 24- D | 34- 60 days | 44- D | 54- B |
| 5- C | 15- B | 25- C | 35- C | 45- B | 55- C |
| 6- C | 16- B | 26- B | 36- C | 46- A | 56- A |
| 7- D | 17- B | 27- A | 37- C | 47- B | 57- A |
| 8- C | 18- A | 28- C | 38- A | 48- B | 58- D |
| 9- A | 19- B | 29- A | 39- B | 49- B | 59- C |
| 10- C | 20- B | 30- A | 40- B | 50- B | 60- D |
| | | | | | 61- C, D |